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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,902	02/09/2004	Hyun-Seok Lee	5649-1154	8775

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EXAMINER

AUDUONG, GENE NGHIA

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/774,902	Applicant(s) LEE ET AL.	
	Examiner Gene N. Auduong	Art Unit 2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02-09-04</u> . | 6) <input type="checkbox"/> Other: ____ |

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on February 10, 2004 is being considered by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamade et al. (U.S. Pat. No. 5,650,975).

Regarding claim 1, Hamade et al. disclose an integrated circuit memory device as in figures 3, 12 and 21, comprising: first and second memory blocks (figures 21, 27, memory blocks #0, #1); and a sense amplifier array (figures 21, 27, sense amplifier array 2102) that is electrically coupled to the first and second memory blocks by first and second pluralities of pairs of bit lines (bit lines BL, /BL), respectively, the sense amplifier array having first and second column select I/O blocks therein that are arranged in an alternating zig-zag layout sequence (figures 21, 27, they are arranged in alternating left-right/zig-zag sequence).

Regarding claim 2, Hamade et al. disclose the memory device of claim 1, wherein the sense amplifier array has first and second rows therein; and wherein the first and second column select I/O blocks extend in the first and second rows, respectively (figures 2, 12, 21 and 27).

Regarding claim 3, Hamade et al. disclose the memory device of claim 2, wherein the sense amplifier array further comprises an alternating zig-zag layout sequence of first and second N-type (or P-type) sense amplifier blocks that extends back-and-forth between the first and second rows (figures 3 and 12).

Regarding claim 4, Hamade et al. disclose the memory device of claim 3, wherein the first row of the sense amplifier array has a first alternating sequence of first column select I/O blocks and first N-type (or P-type) sense amplifier blocks therein; and wherein the second row of the sense amplifier array has a second alternating sequence of second column select I/O blocks and second N-type (or P-type) sense amplifier blocks therein (figures 3 and 12).

Regarding claims 5-6, Hamade et al. disclose the memory device of claim 4, wherein the first column select I/O blocks in the first alternating sequence are grouped in pairs; and wherein the second column select I/O blocks in the second alternating sequence are grouped in pairs, wherein the first N-type (or P-type) sense amplifier blocks in the first alternating sequence are grouped in pairs; and wherein the second N-type (or P-type) sense amplifier blocks in the second alternating sequence are grouped in pairs (figures 3, 12, 21 and 27).

Regarding claims 7-8, Hamade et al. disclose the memory device of claim 4, further comprising: a first column select line that extends between a first column select I/O block and a first N-type (or P-type) sense amplifier block in the first row and between a second column select I/O block and a second N-type (or P-type) sense amplifier block in the second row; and a first column select line extension that is electrically connected to the first column select line and extends between the first and second rows (figures 3, 12, 21 and 27).

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Regarding claim 8, Hamade et al. disclose the memory device of claim 7, wherein the first column select line and the first column select line extension extend in orthogonal directions (figure 12).

Claims 9-20 contain the similar limitation as previously discuss in claims 1-8. Therefore, they are analyzed as previously discussed with respect to claims 1-8.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gene N. Auduong whose telephone number is (571) 272-1773. The examiner can normally be reached on 9-5-4, alternate second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoai Ho can be reached on (571) 272-1777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GA
March 15, 2005



Gene N Auduong
Primary Examiner
Art Unit 2827